Monkeypox Virus Webinar Informational Meeting

July 21, 2022

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Agenda

- Opening remarks
- Situation update:
 - o Epidemiology, clinical overview, medical countermeasures
- Testing and specimen collection processes
- Vaccine access and implementation in NH
- Q/A



Opening Remarks

Patricia Tilley, MS.ED DPHS Director



Situation Update

Benjamin Chan, MD, MPH State Epidemiologist



Goals of the Public Health Response

- Containment (responding to an identified infection)
 - Testing to identify/confirm infection
 - Case investigation and contact tracing
 - Isolation of infected persons
 - Monitoring (not quarantine) for people who have an exposure risk
 - Jynneos vaccine for post-exposure prophylaxis (PEP)
 - Ideally given within 4 days from date of last exposure to prevent disease
 - If given between 4-14 days after exposure, the vaccine may reduce symptoms but not fully prevent disease

Prevention

- Awareness and risk reduction counselling
- Jynneos vaccine for pre-exposure prophylaxis (PrEP) for persons at risk for monkeypox (when there is sufficient vaccine supply)



Background and Epidemiology

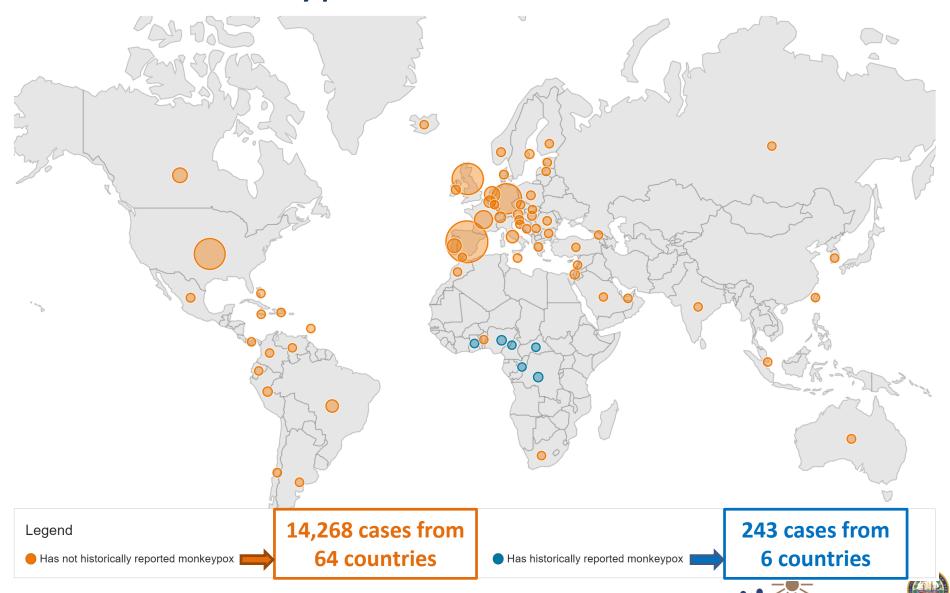


Background

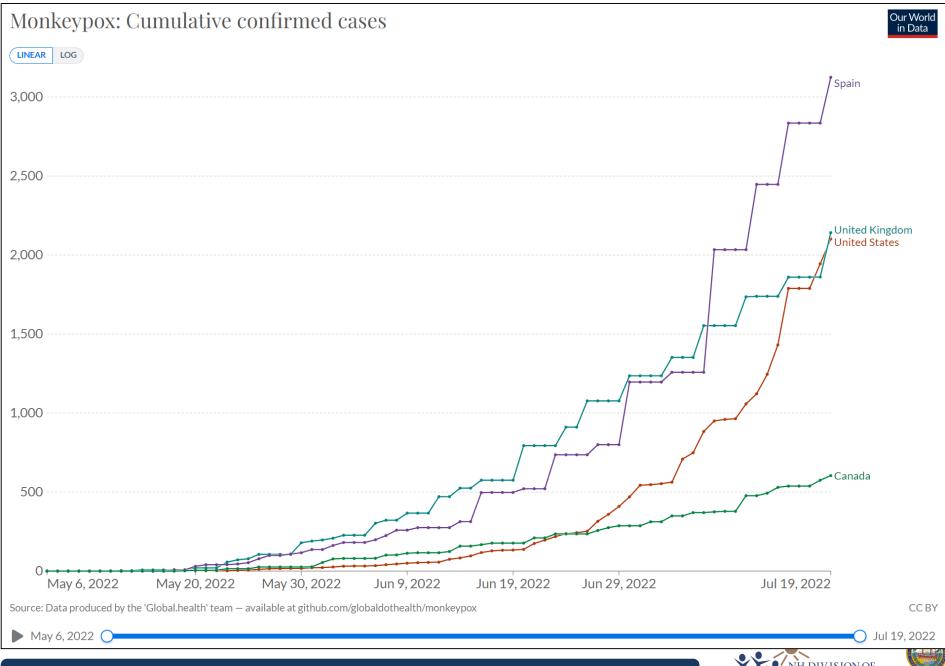
- Family: Poxviridae
- Genus: Orthopoxvirus (which includes the variola virus that causes smallpox)
- First discovered in 1958 after two outbreaks in colonies of research monkeys (hence the name "monkeypox")
- First human case recorded in 1970 in the Democratic Republic of Congo (DRC)
- Endemic in parts of Africa (e.g., west African nations and DRC)
- Natural reservoir is believed to be rodents



Global Monkeypox Outbreak Cases, 2022



Department of Health and Human Services



2022 U.S. Map & Case Count Updated July 20, 2022 Print WA ME MT ND MN OR ID WI NY MA RI SD MI WY IA PA NJ NE NV OH - DE MD UT IL IN WV CA CO VA KS MO ΚΥ NC TN OK ΑZ AR SC NM GA AL MS TX LA FL COC PR **Territories**

Epidemiology Summary

- Case counts are increasing in the U.S. and globally with evidence of transmission occurring largely through sexual networks
- Current outbreaks are predominantly affecting younger males (ages 20-40 years) who identify as gay, bisexual, or MSM
- Mostly mild disease is being reported
- There have been no deaths from monkeypox reported in nonendemic countries



Clinical Features and Treatment Options



Symptoms

- Incubation period on average is 7-14 days (range: 5-21 days)
 - A person is NOT contagious during their incubation period
- Initial symptoms (prodromal period): fever/chills, malaise, headache, sore throat, cough, and localized or generalized lymphadenopathy
 - A person MAY be contagious during the this period
 - Not everybody develops prodromal symptoms before onset of the rash
- Rash appears ~1-3 days after initial symptoms and progresses through 4 stages (macular > papular > vesicular > pustular) before scabbing and crusting over
 - A person IS contagious from the onset of the rash through the scab stage
 - Prototypical rash is reported to progresses from mouth > face > arms/legs > hands/feet (including palms/soles)
 - 2022 outbreaks: skin lesions have an atypical presentation, often with more limited distribution and skin lesions occurring in the genital or perianal areas (likely due to site of inoculation)
- A person is no longer considered infectious once all skin lesions have scab over, scabs have fallen off, and there is a fresh layer of new skin
- Illness resolves within 2-4 weeks



Key Characteristics for Identifying Monkeypox









- Lesions are well circumscribed, deep seated, and often develop umbilication (resembles a dot on the top of the lesion)
- Lesions are relatively the same size and same stage of development on a single site of the body (ex: pustules on face or vesicles on legs)
- Fever before rash
- Lymphadenopathy common
- Disseminated rash is centrifugal (more lesions on extremities, face)
- Lesions on palms, soles
- Lesions are often described as painful until the healing phase when they become itchy (crusts)



Monkeypox Skin Lesions









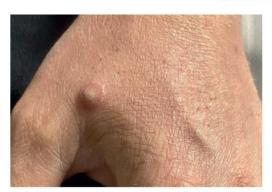


















Human-to-Human Transmission

- Exposure occurs through broken skin, the respiratory tract, or mucous membranes, which requires:
 - Close prolonged face-to-face contact through spread of large respiratory droplets
 - Direct physical contact with infectious body fluids or lesion material
 - Indirect physical contact with infectious lesion material/fluids (e.g., clothing or linens)
- Monkeypox is not considered a sexually transmitted infection
 - Spread occurs between sexual partners through physical contact
 - It remains possible the monkeypox virus could be sexually transmitted, but this needs further study



Monkeypox Virus Found in Various Specimens

- Monkeypox virus has been detected by PCR in multiple different body fluids or specimen types, including the following:
 - Blood
 - Nasopharyngeal and oropharyngeal swabs
 - Saliva
 - Semen
 - Urine
 - Rectal swabs
 - Feces
- Risk of transmission through these routes is unclear because PCR detection does not necessarily mean infectious
 - E.g., Two German patients had monkeypox virus detected in semen by PCR, but no growth on viral culture





Concise Communication

Monkeypox transmission following exposure in healthcare facilities in nonendemic settings: Low risk but limited literature

- "In summary, based on published reports prior to the May 2022 global outbreak of monkeypox in nonendemic countries, the risk of exposure in well-resourced healthcare settings leading to transmission is low, with a single reported transmission event in the current literature."
- Despite hundreds of healthcare contacts, monkeypox is NOT easily transmitted without close prolonged face-to-face or physical contact



Persons at Highest Risk for Monkeypox

- Any person with close prolonged contact or any direct physical contact to another person suspected or confirmed to have monkeypox (without wearing PPE)
- Any person that came into physical contact with items (e.g., clothing or linens) that previously touched the infectious rash or body fluids of a person with monkeypox (without wearing PPE)
- Persons who engage in high-risk sexual activity, including who:
 - Have multiple recent sex partners
 - Engage in group or anonymous sex
 - Exchange sex for money, drugs, or services
 - Engage in sex with people identified through dating apps, saunas, other sex on premise venues, etc.
 - Have a sex partner who engages in higher risk sexual activity



Provider Evaluation

- When evaluating patients for monkeypox infection:
 - Place patient in a private room with a private bathroom (airborne isolation is not required unless conducting an aerosol generating procedure)
 - Wear recommended PPE (see CDC's <u>infection prevention guidance</u>)
 - Take a detailed sexual history
 - Ask about any close or physical contact to a person who may have had similar skin lesions
 - Take a detailed history of the skin rash/lesions and any other symptoms
- Test anybody who has skin lesions consistent with monkeypox, especially if those skin lesions are on the genital or perianal areas, or if person has any identified risk factors
- Also screen for other STIs given high risk of concurrent infection
- Report suspected cases of monkeypox to NH DPHS at 603-271-4496 (nights and weekends call 603-271-5300 and ask for the on-call public health nurse)



Treatments for Monkeypox

- Tecovirimat (TPOXX)
 - Antiviral drug approved for treatment of smallpox in adults and children;
 use for monkeypox is covered by a CDC expanded access IND protocol
 - Available as an oral capsule or IV vial
 - No human data available for effectiveness in treating monkeypox virus
 - Obtaining and Using TPOXX requires consultation with CDC (EOC: 770-488-7100), and following IND requirements
 - Consider treatment in persons:
 - With severe disease
 - Who are a high risk of severe disease (e.g., immunocompromised, patients younger than 8 years, pregnant or breastfeeding women, persons with complications of infection, persons with a history of atopic dermatitis or eczema, etc.)
 - "Aberrant infections" involving accidental implantation in anatomic areas where monkeypox virus might constitute a special hazard (e.g., eyes)
- Vaccinia Immune Globulin (VIG)
- Cidofovir/Brincidofovir



Testing Safely and Efficiently

Megan Heddy, RN, BSN, Chief, IDPICSS Katrina Hansen, MPH, Chief, IDSS



Testing Availability

- Two main pathways for testing:
 - NH Public Health Laboratory (NH PHL)
 - All testing coordinated through DPHS
 - Must meet certain criteria for testing
 - Providers must ensure:
 - Specimen is submitted appropriately
 - Lab requisition forms are completed
 - Coordinate with DPHS
 - Please don't send specimens to NH PHL prior to contacting NH Bureau of Infectious Disease Control (BIDC)
 - Commercial laboratories
 - Testing is available at five commercial labs to expand testing capacity nationwide and make testing convenient and accessible
 - Please report suspect cases to assist with quick response if specimen is later identified as positive



Testing Availability

- HHS announced expanding testing capacity at five commercial laboratories
 - Aegis Science
 - Labcorp
 - Mayo Clinic Laboratories
 - Quest Diagnostics
 - Sonic Healthcare
- Healthcare providers are now able to use these laboratories for testing
- NH DPHS is onboarded for electronic laboratory reporting (ELR) for most of these laboratories and identifying other mechanisms to ensure prompt reporting for those that don't have established ELR connections



How to Request Testing in PHL

monkeypox outbreak? ☐Yes ☐No ☐Don't Know

(See CDC guidance for a description and pictures of monkeypox skin lesions)

 If you suspect monkeypox and will need to use the PHL for testing, collect the following information <u>before</u> contacting the Division of Public Health Services:

	30.1.000.	
□ Age	e	☐ Risk Factors (within 21 days of symptom onset)
□ Sex	c/gender	☐ Contact with another person who had a similar appearing rash
□ Pro	odromal symptoms (check all that apply):	$\ \square$ Contact with another person with suspected or confirmed monkeypox
	□ Symptom onset date: □ Fever:°F/°C □ Chills □ Fatigue/exhaustion □ Headache □ Muscle aches □ Sore throat □ Cough □ Swollen lymph nodes; Location of lymphadenopathy	 □ Travel to a country with confirmed cases of monkeypox, or to West or Centra Africa; specify country/ies: □ Rash or skin lesions developed after intimate/sexual contact □ Gay, bisexual, or man who has sex with men (MSM) □ Intimate/sexual contact that occurred during travel □ Other high-risk sexual contacts (e.g., multiple sex partners, anonymous sex partners, sex for money or drugs, new sex partner who has multiple other recessex partners)
□ Ras	□ Other symptoms	 Had contact with dead or wild/exotic animal that is an African endemic species or used a product derived from such an animal (e.g., game meat, creams, lotic
⊔ Kas	☐ Rash/lesion onset date:	powders, etc.)
0	Body part(s)/region(s) affected	*without information above, testing <u>cannot</u> be recommended*
☐ If s	kin lesions are present, do they resemble those being reported during the curi	rrent



How to Request Testing in PHL

Additional Information to Collect if Available

Specimen collection date (if already collected by provider)		
Isolation status (i.e., can the person effectively isolate from both humans and animals,		
ideally with a separate bathroom)		
Healthcare visits/exposures (dates and locations)		
Household contacts and living situation		
Are any household contacts <8 years of age, pregnant, or immunocompromised?		
Sexual contacts (in 21 days before symptom onset and also since symptom onset)		
Additional testing being performed or other clinical diagnosis under consideration		
provider collected specimen already: were all aspects of patient management done in		
accordance with infection prevention recommendations? Any infection control		
concerns?		



How to Request Testing in PHL

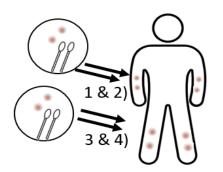
- Once information is collected and monkeypox is still suspected,
 call 603-271-4496 to contact with a public health professional
 - Monday-Friday 4:30pm-8am and Saturday/Sunday: Call 603-271-5300
- Information will be collected and discussed with a public health clinician to determine if testing criteria has been met
- If testing is recommended, next steps on specimen collection and transporting the specimen to the public health lab will be given to the referring clinician
- Public Health lab (PHL) conducts initial testing for orthopox and CDC performs characterization testing



Specimen Collection

Refer to NH HAN from 5/20/2022 and PHL Collection Kit Instructions for additional information

7/14



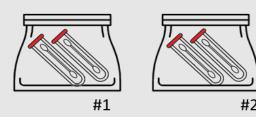
Supplies needed: 2 swabs, 2 storage containers and 1 lab requisition for <u>each</u> lesion site being tested-up to 2 lesion sites.

Collection instructions:

Swab 1 & 2 will be used on lesion type A and stored in containers 1 & 2 labeled with lesion type/location. Place containers 1 & 2 in one specimen bag accompanied by a site-specific lab requisition in the outermost sleeve of the bag.

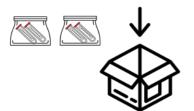
If collecting from a second lesion site- Swab 3 & 4 will be used on lesion type B and stored in containers 3 & 4 labeled with lesion type/location. Place containers 3 & 4 in one specimen bag accompanied by a site-specific lab requisition in the outermost sleeve of the bag.

<u>ALL sample tubes MUST be properly labelled</u> with two patient identifiers (full name & date of birth OR full name & medical record number - must also match on requisition)



Specimen storage

- a. DO NOT USE VIRAL TRANSPORT MEDIA as mentioned in CDC collection guidance- NH PHL cannot test if viral transport media is used
- b. Refrigerate specimens (2-8°C) within an hour after collection



Specimen transport - if sending to NH PHL for testing

- a. Provide a point of contact name and phone number to help PHL courier with questions
- c. Prior to courier pick up, the specimen bags will need to be boxed up with an ice pack to maintain appropriate temperatures in transit.

Testing is available at several reference labs.

Please check with your contracted lab to determine availability of testing and any lab specific guidance.



Infection Control During Specimen Collection

- Personnel who collect specimens should use personal protective equipment (PPE) in accordance with <u>recommendations for healthcare settings</u>
- Personal Protective Equipment (PPE) used by healthcare personnel who enter the patient's room should include:
 - Gown
 - Gloves
 - Eye protection (i.e., goggles or a face shield that covers the front and sides of the face)
 - NIOSH-approved particulate respirator equipped with N95 filters or higher



Infection Control and MPV

- MPV transmission in healthcare has been rarely documented
- General infection control guidelines can in the <u>"Guidelines for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings</u> (2007)<u>"</u>

Precautions:

- Standard Precautions should be applied for all patient care, including those with suspected Monkeypox Virus
- If a patient seeking care is suspected to have Monkeypox Virus, infection prevention and control personnel should be notified
- Activities that could 're-suspend' dried material from lesions, e.g. portable fans, dry dusting, sweeping, or vacuuming should be avoided
- Note: for duration of Precautions, decisions regarding discontinuation of isolation precautions in a healthcare facility should be made in consultation with the local or state health department. Isolation Precautions should be maintained until all lesions have crusted, those crusts have separated, and a fresh layer of healthy skin has formed underneath.



Infection Control and the Monkeypox Virus

Patient placement:

- A patient with suspected or confirmed monkeypox infection should be placed in a single-person room (special air handling is not required)
- The door should be kept closed (if safe to do so) and the patient should have a dedicated bathroom.
- Transport and movement of the patient outside of the room should be limited to medically essential purposes.
- If the patient is transported outside of their room, they should use well-fitting source control (e.g., medical mask) and have any exposed skin lesions covered with a sheet or gown.
- Intubation and extubation, and any procedures likely to spread oral secretions should be performed in an airborne infection isolation room.



Infection Control and the Monkeypox Virus

Environmental Infection Control:

 Standard cleaning and disinfection procedures should be performed using an EPAregistered hospital-grade disinfectant with an emerging viral pathogen claim

Soiled laundry:

- Should be handled in accordance with standard practices, avoiding contact with lesions
- Soiled laundry should be gently and promptly contained in an appropriate laundry bag
- Should never be shaken or handled in manner that may disperse infectious material
- https://www.cdc.gov/infectioncontrol/pdf/guidelines/environmental-guidelines-P.pdf
- Activities such as dry dusting, sweeping, or vacuuming should be avoided and wet cleaning methods are preferred



Additional Testing to Consider

- The rash associated with monkeypox can be confused with other rashes encountered in clinical practice including:
 - Herpes
 - Syphilis
 - Varicella
- It is important to comprehensively evaluate patients presenting with genital or perianal ulcers for STIs
 - Screening for STIs that are not associated with skin lesions should also be considered
- Co-infections with monkeypox and STIs have been reported and the presence of an STI does not rule out monkeypox
 - Observation analysis from a clinic in the UK found that 1-in-4 (25%) cases had concurrent sexually transmitted infection (STI)



Vaccine Access and Implementation in NH

Paula Holigan, MSPH, Program Manager, NHIP



Medical Countermeasures: Licensed Vaccines

JYNNEOS TM

- Non-replicating, live virus
- 2 doses SQ, administered 4 weeks apart
- Person fully immunized 2 weeks after 2nd dose
- Universal precautions are to be used by vaccinators

ACAM2000 ®

- Currently no plans to use ACAM2000 in NH due to the following:
 - Challenges with vaccine administration
 - Specialized training requirements
 - Extensive contraindication list
 - Safety requirements for the vaccinator and vaccine recipient

Medical Countermeasures: JYNNEOS TM

Pre-Exposure Prophylaxis (PrEP)

- ACIP recommends certain laboratorians and health care personnel who are at high risk of occupational exposure be prophylactically vaccinated
 - Healthcare workers not performing specimen testing are not recommended to receive PrEP (See <u>CDC link</u> for additional details)
- NH DHHS will coordinate PrEP when individuals are identified

Post-Exposure Prophylaxis (PEP)

- DHHS may recommend that high and intermediate risk contacts be vaccinated
 - DHHS may request hospitals to administer JYNNEOS [™] vaccine to asymptomatic individuals
 - This may include your healthcare workers who were exposed during treatment of the infected individual

National Vaccine Strategy

Pre-Exposure Prophylaxis (PrEP)

Indicated for individuals at high risk

Post-Exposure Prophylaxis (PEP)

 Recommend that high and intermediate risk contacts be vaccinated

PEP++ (Expanded PEP)

- Considers individuals' risk factors
- Aims to reach individuals post-exposure, without documented exposure
- May help slow the spread of monkeypox
- Vaccinated when additional vaccine is available



Current NH Vaccine Allocation & Strategy

JYNNEOS™ vaccine supply

- Vaccine allocation in-state
 - Enough for approximately 160 individuals (2 dose series)

Vaccine strategy

- Pre-Exposure Prophylaxis (PrEP)
 - To date: healthcare occupations at high risk
 - Future: high risk populations
- Post-Exposure Prophylaxis (PEP)
 - High & intermediate contacts
- PEP++ (Expanded PEP)
 - Future distribution plans as supply chain improves



Provider Vaccine Rollout Information

- Provider vaccination agreement for monkeypox
- Medical direction
- Storage and handling
- Equipment & supplies
- Vaccination administration
- Documentation



Provider Vaccine Rollout Information

Medical order

- Prior to administering this vaccine, an order will need to be issued by your organization's prescribing provider.
 - JYNNEOS™ is a two dose primary series with each dose administered subcutaneously 4 weeks apart. Administer doses (0.5 mL per dose) subcutaneously
- Ensure access to emergency medication is available
 - Please be familiar with emergency orders in the unlikely event of an anaphylactic reaction.



Provider Vaccine Rollout Information: Equipment & Ancillary Supplies

- Equipment
 - Refrigerator & freezer (cold storage)
 - Datalogger
- Ancillary supplies not provided by SNS with the Jynneos Vaccine
- DHHS encourages the following supplies be available during the vaccine process
 - PPE for universal precautions (gloves)
 - Needles & syringes
 - Epi-Pens®
 - Benadryl liquid (preferred)
 - Alcohol preps & Band-Aids



Provider Vaccine Rollout Information Provider Packet

- Storage and Handling Guidelines
- Smallpox-Monkeypox <u>Vaccine Information Sheet</u> (VIS)
- JYNNEOS™ Vaccine Record and Consent
- NH Immunization Information System (NHIIS) Opt-Out form
- JYNNEOS™ Vaccine Administration Instructions
- Documenting a JYNNEOS™ Vaccine Administration
- NHIP Vaccine Card



Medical Countermeasures: JYNNEOSTM Documentation

Documentation

- Short-term (Interim plan)
 - Your clinic's documentation to maintain patient record
 - NHIP will assist with NHIIS documentation

Long-term

- Your clinic's documentation to maintain patient record
- NHIIS documentation
 - Your agency will be provided with training for your direct reporting to NHIIS



Your Agency's Capacity to Assist with Monkeypox Virus Vaccination

- Provider Agreement for vaccine accountability, etc.
- Medical Director, standing orders
- Equipment Needs
 - Refrigerators for vaccine storage
 - Digital Data loggers (temperature monitoring system)
- Ancillary supplies
- Provider reimbursement
 - A vaccine administration fee may be charged
 - Amount varies by insurance



Next Steps

- Further partnership discussions
- Communicate strategy and plan with partners
- For more information, or to enroll as a Jynneos vaccine provider, please email paula.m.holigan@dhhs.nh.gov

Thank you!



Additional DHHS resources

- Refer to the NH HAN from 5/20/2022 for additional information
- NH DPHS provider presentation: <u>PowerPoint Presentation (nh.gov)</u>
- NH DHHS MPV website: Monkeypox | New Hampshire Department of Health and Human Services (nh.gov)



Additional CDC resources

General

- U.S. Monkeypox 2022: Situation Summary
- CDC Monkeypox Website
- Monkeypox FAQs
- U.S. Map & Case Count
- Map of Global Outbreak with Case Counts

Vaccination NEW

- National Vaccine Strategy
- Considerations for Monkeypox Vaccination
 - Vaccine Strategies to Prevent Monkeypox
 - Vaccine Information (JYNNEOS and ACAM2000)
 - Planning Considerations for Health Departments and Providers

For Clinicians

- Information For Healthcare Professionals
- Interim Clinical Guidance for the Treatment of Monkeypox NEW
- What Clinicians Need to Know about Monkeypox 6-21-2022 (PDF)
- Webinar June 29, 2022 Monkeypox: Updates about Clinical Diagnosis and Treatment
 - Webinar Slides [PDF]
- Clinician FAQs | Monkeypox | Poxvirus | CDC
- Information for Veterinarians NEW

Laboratory

Mayo Clinic Laboratories to Begin Monkeypox Testing Today NEW

Labcorp Begins Monkeypox Testing NEW

Information for Laboratory Personnel

Laboratory Process for Monkeypox

Test Procedure: Monkeypox virus Generic Real-Time PCR Test

Community Engagement

Prevention | Monkeypox | Poxvirus | CDC

Monkeypox: Get the Facts

Reducing Stigma in Monkeypox Communication and Community

Engagement

Guidance for Social Gatherings and Safer Sex

Monkeypox Facts for People Who are Sexually Active

Preventing Monkeypox in Congregate Settings

Pets in the Home **NEW**

Travelers' Health Alert

Morbidity and Mortality Weekly Report (MMWR)

- 1. Monkeypox Outbreak Nine Cases, May 2022
- 2. Use of JYNNEOS (Smallpox and Monkeypox Vaccine, Live,

Nonreplicating) for Preexposure Vaccination of Persons at Risk

for Occupational Exposure to Orthopoxviruses:

Recommendations of the Advisory Committee on Immunization

Practices — United States, 2022

3. Rapid Diagnostic Testing for Response to the Monkeypox

 $\underline{\textbf{Outbreak}-\textbf{Laboratory}\,\textbf{Response}\,\textbf{Network},\textbf{United}\,\textbf{States},\textbf{May}}$

<u>17–June 30, 2022</u> **NEW**



Acknowledgments

- DHHS and DPHS
 - Medical subject matter experts
 - Leadership
 - Public health lab
 - Epidemiology
 - Investigation
 - Monitoring
 - Immunization
 - Emergency Preparedness, Planning, and Response
- Nashua and Manchester Health Department
- CDC and other Federal partners
- Department of Agriculture, Markets, and Food



Q&A

